

# इंटरनेट

# मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 8271-6-4 (1988): Quartz crystal units used for frequency control and selection, Part 6: Series BF for Oscillators, Section 4: Quartz crystal unit type BF-04 [LITD 5: Semiconductor and Other Electronic Components and Devices]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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*Indian Standard*  
**SPECIFICATION FOR  
QUARTZ CRYSTAL UNITS USED FOR FREQUENCY  
CONTROL AND SELECTION  
PART 6 SERIES BF FOR OSCILLATORS  
Section 4 Quartz Crystal Unit Type BF-04**

**0. General** — This standard shall be read in conjunction with IS : 8271 ( Part 1 )-1981 'Specification for quartz crystal units used for frequency control and selection: Part 1 General requirements and tests ( first revision )'.

**1. Outline and Dimensions** — Holder outline shall conform to Type BF [ see IS : 4570 ( Part 5 )-1984 'Specification for crystal unit holders: Part 5 Metal, solder seal, two-wire crystal unit holders Types BF, BF/1 and BG, BG/1 ].

**2. Marking** — See 8 of IS : 8271 ( Part 1 )-1981.

**3. Construction and Workmanship** — See 7 of IS : 8271 ( Part 1 )-1981.

**4. Test Schedule and Detail Requirements**

**4.1 General Conditions for Test** — See 9.2 of IS : 8271 ( Part 1 )-1981.

**4.2 Test Schedule** — The sequence and grouping of type, routine and acceptance tests shall be in accordance with 9.1 of IS : 8271 ( Part 1 )-1981.

**4.3 Detail Requirements** — The detail requirements applicable to this particular type of crystal unit shall be as specified in Table 1.

**TABLE 1 DETAIL REQUIREMENTS OF QUARTZ CRYSTAL UNIT TYPE BF-04**

Characteristic	Requirement
a) Type of holder	BF ( see 1 )
b) Frequency range	10 to 61 MHz
c) Frequency tolerance	
1) Operating temperature range	±10 ppm
2) Room temperature	±70 ppm
d) Frequency stability	±2.5 ppm
e) Load capacitance	Infinity
f) Mode of oscillation	Third mechanical overtone
g) Reference temperature	75 ± 1°C
h) Temperature range	
1) Operating	70 to 80°C
2) Operable	—55 to + 70°C and 80 to 90°C
j) Test set, calibration values and rated drive level	See Table 2
k) Capacitance shunt	7 pF, ax
m) Resonance resistance	40 ohms, Max
n) Shock [ As 9.15 ( severity A ) of IS : 8271 ( Part 1 )-1981 ]	
1) Frequency change permitted	±5 ppm
2) Resonance resistance change permitted	±10 percent
p) Vibration [ As in 9.16.1 ( severity A ) of IS : 8271 ( Part 1 )-1981 ]	
1) Frequency change permitted	±5 ppm
2) Resonance resistance change permitted	±10 percent
q) Ageing	
Frequency change permitted	5 ppm

TABLE 2 TEST SET, CALIBRATION VALUES AND RATED DRIVE LEVEL  
[ See Table 1 ( j ) ]

SI No.	Frequency Specified  MHz	Calibration Values		Rated Drive Level  mW	Test Set
		Resistance  Ohms	Resistor Voltage Drop Volts		
( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )
1.	10 to 15	60	0.35	$2.0 \pm 0.4$	} TS-683/TSM
2.	Over 15 to 25	40	0.28	$2.0 \pm 0.4$	
3.	Over 25 to 61	40	0.20	$1.0 \pm 0.2$	

EXPLANATORY NOTE

This standard ( Part 6/Sec 4 ) covers the requirements of crystal unit, quartz, style QC-28 of JSS 50908 ( 1971 ) 'Detail specification for crystal unit, quartz, styles QC-27 and QC-28', issued by the Directorate of Standardization, Ministry of Defence ( India ).